

BY THE
GSI GROUP



Competitor Series - Fiberglass Fans

Installation and Operation Manual

PNEG-1559

Date: 07-09-14



PNEG-1559

Congratulations

You have just purchased one of the best ventilation fans in the industry, designed to give years of high velocity airflow while saving hundreds of dollars in electrical usage. Please take some time to read through this manual and familiarize yourself with the proper installation methods and operation of the fan.

FEATURES

- 30044 CFM and 20.2 CFM/W at 0.05" on 54" high performance.
- Limited lifetime warranty on the housing and cone.
- Corrosion resistant.
- Easy assembly and maintenance.
- On-site service and support.

Unpacking

Before beginning installation, check the condition of the fan. Remove the overwrap and packing materials and examine all parts and components for shipping damage. Any damage incurred must be reported immediately to the freight carrier.

Models : Competitor Series Fans

Size : 24", 36" and 54"

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Safety Guidelines

This manual contains information that is important for you, the owner/operator, to know and understand. This information relates to protecting **personal safety** and **preventing equipment problems**. It is the responsibility of the owner/operator to inform anyone operating or working in the area of this equipment of these safety guidelines. To help you recognize this information, we use the symbols that are defined below. Please read the manual and pay attention to these sections. Failure to read this manual and its safety instructions is a misuse of the equipment and may lead to serious injury or death.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



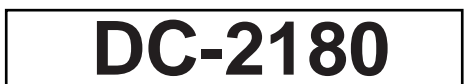
WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE is used to address practices not related to personal injury.



WARNING CE Fan models only. Safety decal applied four (4) places.

Safety Instructions

Our foremost concern is your safety and the safety of others associated with this equipment. We want to keep you as a customer. This manual is to help you understand safe operating procedures and some problems that may be encountered by the operator and other personnel.

As owner and/or operator, it is your responsibility to know what requirements, hazards, and precautions exist, and to inform all personnel associated with the equipment or in the area. Safety precautions may be required from the personnel. Avoid any alterations to the equipment. Such alterations may produce a very dangerous situation where **SERIOUS INJURY** or **DEATH** may occur.

This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.

Install and Operate Electrical Equipment Properly

Electrical controls should be installed by a qualified electrician and must meet the standards set by the National Electrical Code and all local and state codes.

Disconnect and lock out all power sources before installing wires/cables or servicing equipment.



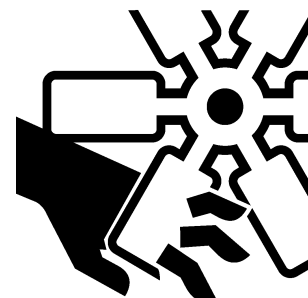
Electric Shock Hazard

Keep Hands Away from Moving Parts

DO NOT put hand or arm in fan. Rotating parts can crush and dismember.

DO NOT put any kind of tool inside fan to try and clear debris while the fan is running. Damage to the equipment will result.

ALWAYS turn OFF and lock out all power sources before servicing equipment.

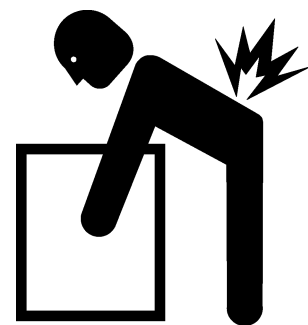


Rotating Fan Blade

Lifting Hazard

Single person lift could cause injury.

Use two or more people or a mechanical lifting device to lift/move heavy equipment.



Use Assistance When Lifting or Moving Heavy Equipment

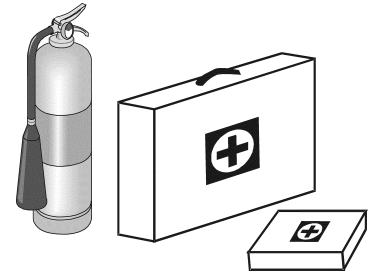
1. Safety

Prepare for Emergencies

Be prepared if fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.



Keep Emergency Equipment Quickly Accessible

Wear Protective Clothing

Wear close-fitting clothing and safety equipment appropriate to the job.

Remove all jewelry.

Tie long hair up and back.

Wear safety glasses at all times to protect eyes from debris.

Wear gloves to protect your hands from sharp edges on plastic or steel parts.

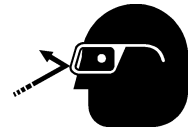
Wear steel-toed boots to help protect your feet from falling debris. Tuck in any loose or dangling shoestrings.

A respirator may be needed to prevent breathing potentially toxic fumes and dust.

Wear a hard hat to help protect your head.

Wear appropriate fall protection equipment when working at elevations greater than six feet (6').

Eye Protection



Gloves



Steel-Toed Boots



Respirator



Hard Hat



Fall Protection



General Safety Information

Users Manual

This manual contains information and instructions essential to the safe installation and use of the Competitor Series Fans. This manual should be read thoroughly before attempting any installation or use of the fan. Keep this manual in a location that it can be readily accessible. Failure to read the manual and its safety instructions constitutes misuse of the product.

Safety in Handling the Competitor Series Fans

This unit should be installed and maintained by a qualified technician familiar with the use and function of ventilation fans. This will prevent situations leading to damaged components and/or injury. Whenever possible, use mechanical lifting equipment when lifting or moving the fan during installation. When manual handling is required, seek assistance from other people.

Correct Use of Your Competitor Series Fan

The fan is designed solely for the purpose of ventilating agricultural buildings. Use of the fan in any other way is a misuse of the equipment and may endanger your's or another person's safety and health.

In the installation and use of the fan, only genuine AP/Cumberland parts are to be used. Use of other non-genuine parts is a misuse and may lead to dangerous situations.

This fan is not designed for use in atmospheres where the risk of explosion is foreseen. Such environments may include enclosed areas of high dust concentrations, gas, vapors and fumes. Use in such an environment is prohibited. If in doubt, contact AP/Cumberland or your dealer.

Safety Guards

The fan contains moving and electrical parts which will cause serious injury, even death if touched. Guards are placed on the fan to protect you. Operating the fan at any time with guards removed or incorrectly fitted is a serious misuse of the fan and endangers you and other's safety.

Safety in Maintenance

While the fan is designed to keep maintenance to a minimum, some items such as greasing the bearings and belt replacement will be required over the life of the fan. Do not attempt any maintenance or repairs on the fan unless you are competent to do so. Remember that the fan may, in certain situations, operate under automatic control and will start without warning. Never attempt any work on the fan without first isolating it from the power supply and locking out the isolator so that only you can turn the power back ON. For your safety, follow the guidelines given in the [Maintenance Section on Page 17](#) of this manual.

Before re-starting the fan, ensure that all electrical enclosures are locked, closed and all guards and other safety measures are correctly fitted. If in doubt, contact your dealer or AP/Cumberland for assistance.

1. Safety

Electrical Safety

Provisions for an adequate and safe power supply to the fan unit are essential to your safety. AP/Cumberland recommends that a competent and qualified electrician undertake all electrical wiring. **All wiring is to be installed in accordance with National, State and Local Electrical Codes.** Fans used to ventilate livestock buildings and other rooms where continuous air movement is essential, should be connected to individual electrical circuits with a minimum of two (2) circuits per room.

We strongly recommend the installation of supplementary natural ventilation as well as a back-up thermostat. There should also be an alarm system on at least one cooling stage. For connection requirements, refer to the diagram on the motor nameplate and also to information enclosed with the fan control used.

For 1 phase fans, motor overload protection should be provided for each fan. A circuit breaker or slow blow motor type fuse must be used. A safety cut-off switch should be located adjacent to each fan. Contact your local distributor for the correct cut-off switch.

The motor must be securely and adequately grounded. This can be accomplished by wiring with a grounded conduit or a separate ground wire attached to the motor's ground lug. Do not attempt operation unless the motor is sufficiently grounded.

Do not kink power cable and never allow cable to come in contact with oil, grease, hot surfaces or chemicals.

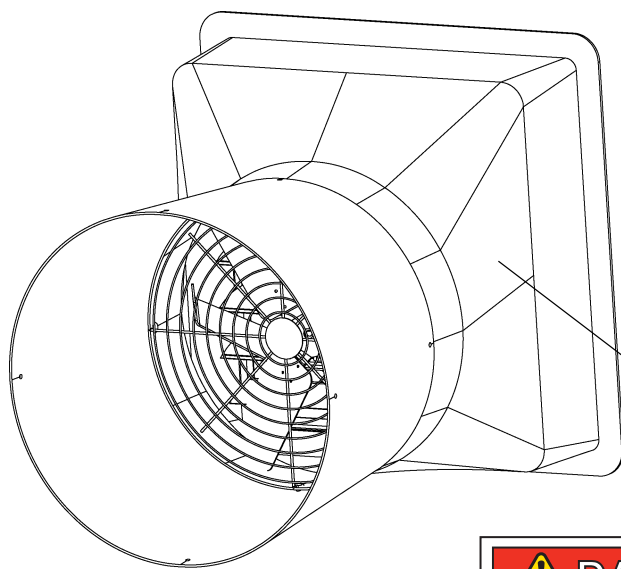
Remember, electrical safety is your responsibility.

General Safety Statements

READ THESE INSTRUCTIONS BEFORE INSTALLATION, OPERATION AND SERVICE SAVE FOR FUTURE REFERENCE

1. Read and understand this operating manual before trying to install or operate the Competitor Series Fans.
2. Power supply should be OFF and LOCKED OUT for service of electrical components. Use **CAUTION** in checking voltage or other procedures requiring power to be ON.
3. Never attempt to operate the fan by jumping or otherwise bypassing any safety devices on the unit.
4. Keep the fan clean. Do not allow debris to collect around motors, belts, pulleys or bearings.
5. Use **CAUTION** in working around the fan's moving parts.

Safety Decals and Locations for 24" Fan






DC-1540 - 3-3/4" x 5-3/4"

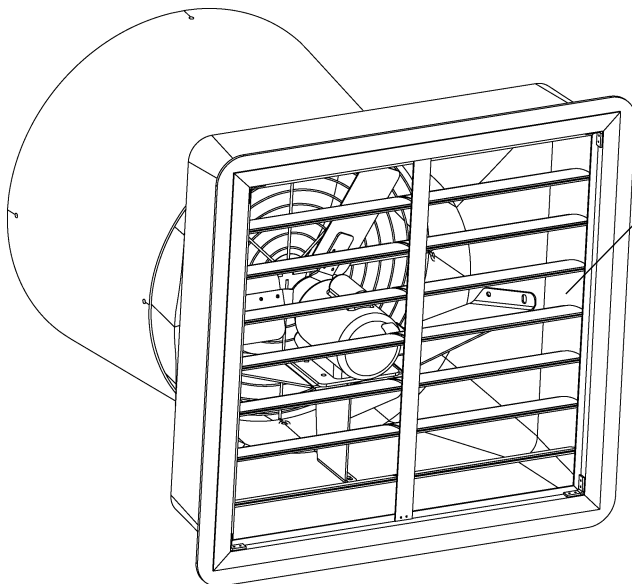
DANGER High Voltage

WARNING Stay Clear of Rotating Blade

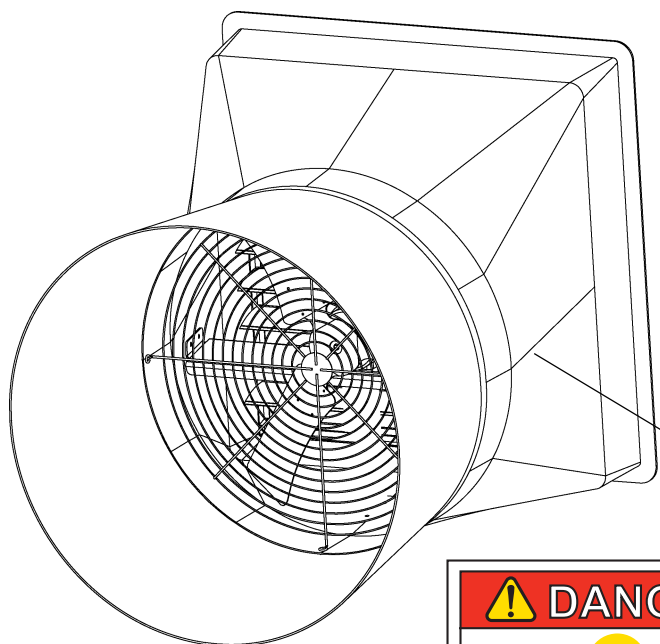
WARNING Flying Objects Hazard

Located left middle outside and right middle inside.

 <p>DANGER</p> <p>HIGH VOLTAGE</p> <ul style="list-style-type: none"> • Will cause serious injury or death. • Lockout power before servicing. <p><small>The GSI Group 217-226-4421</small></p>	 <p>WARNING</p> <p>STAY CLEAR OF ROTATING BLADE</p> <ul style="list-style-type: none"> • Blade may start automatically. • May cause serious injury. • Disconnect and lockout power sources before servicing.
	<p>WARNING</p> <p>FLYING OBJECTS HAZARD</p> <ul style="list-style-type: none"> • Danger of eye injury. • Wear eye protection. <p><small>DC-1540</small></p>



Safety Decals and Locations for 36" Fan



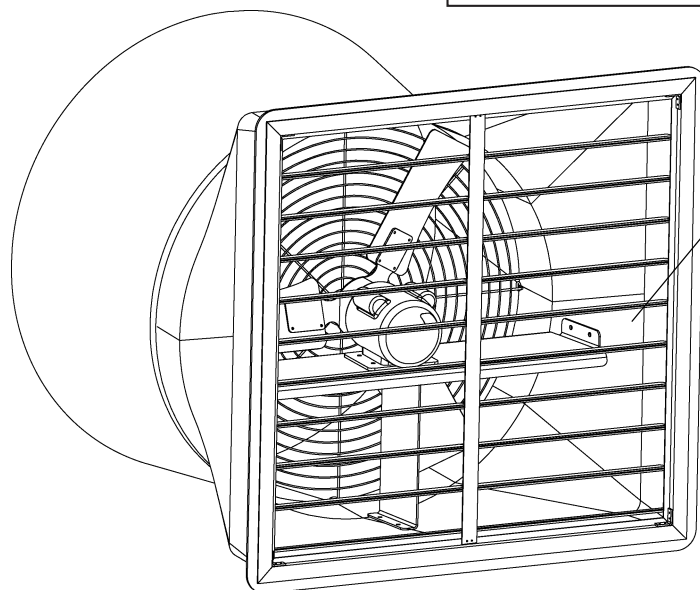
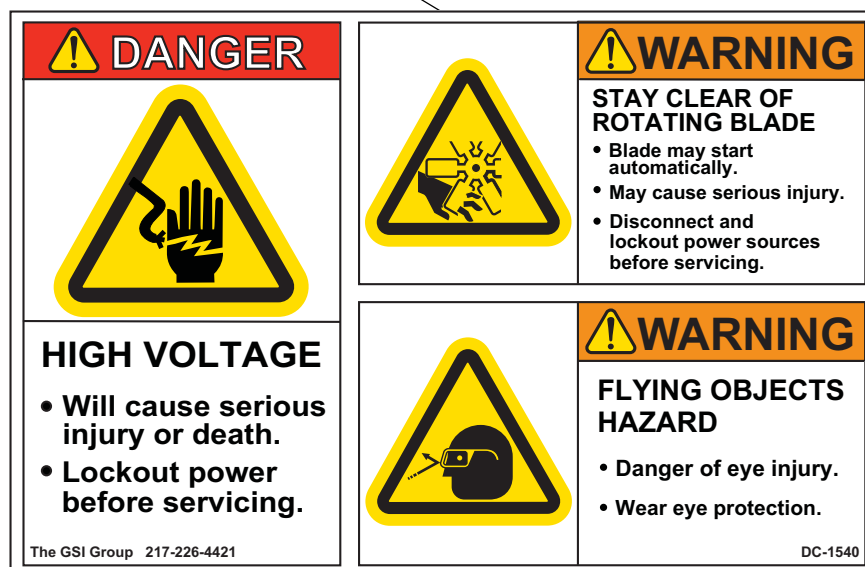
DC-1540 - 3-3/4" x 5-3/4"

DANGER High Voltage

WARNING Stay Clear of Rotating Blade

WARNING Flying Objects Hazard

Located left middle outside and right middle inside.



Safety Decals and Locations for 54" Fan and 54" CE Fan

DC-2180 - 4-1/2" x 4"

Required on CE
54" fans only.

Two (2) pieces (outside)

Both sides.

GSI Group Inc. 217-226-4421

DC-995

DC-995 - 2.0" x 4-1/2"

WARNING Shear Point

Located left middle outside
and right middle inside.

The GSI Group 217-226-4421

DC-1540

DC-1540 - 3-3/4" x 5-3/4"

DANGER High Voltage

WARNING Stay Clear of Rotating Blade

WARNING Flying Objects Hazard

Located left middle outside and right middle inside.

DC-2180

DC-2180 - 4-1/2" x 4"

Required on CE
54" fans only.

Two (2) pieces (inside)

Both sides.

Framing



Lifting hazard. Single person lift could cause injury. Use two (2) or more people or a mechanical lifting device to lift/move heavy equipment.

1. Construct the opening frame to the correct size (rough openings are listed in [Chart below](#)) as illustrated in the [Figure 3A](#). The framing must be able to support the weight of the fan assembly. Ensure the load-bearing portion of the bottom sill is rigid and properly supported.
2. Position the fan in front of the opening from the inside. Using a minimum of two (2) people, lift fan housing into the opening.
3. Check the fan for vertical position before screwing flanges down. Fasten flanges to framework with the wood mounting screws provided. The fan housing should now be flush and level inside of the framing.

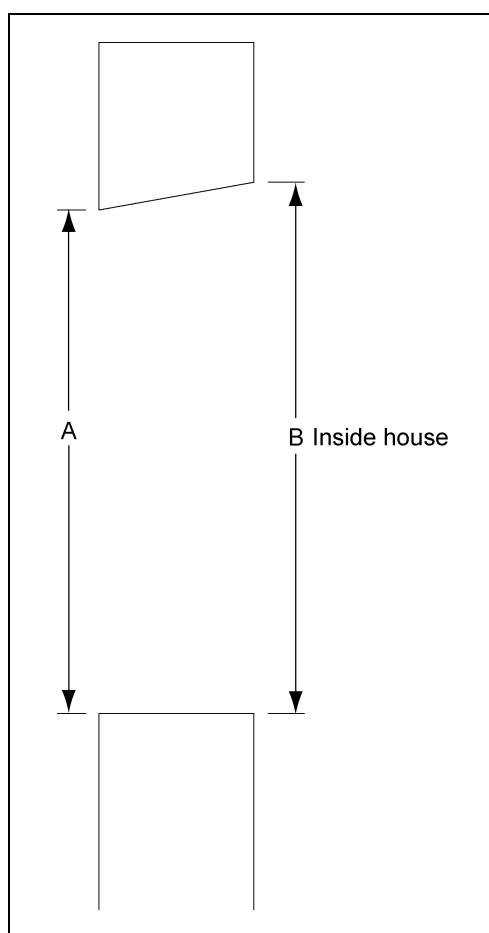


Figure 3A

Fan Model	Width	Inside Height (B)	Outside Height (A)		
			4" Wall	6" Wall	8" Wall
CS24	34-1/2"	34-1/2"	33-1/2"	33"	32-1/2"
CS54	58"	60-1/2"	60"	59-1/2"	59"

Fan Dimensions

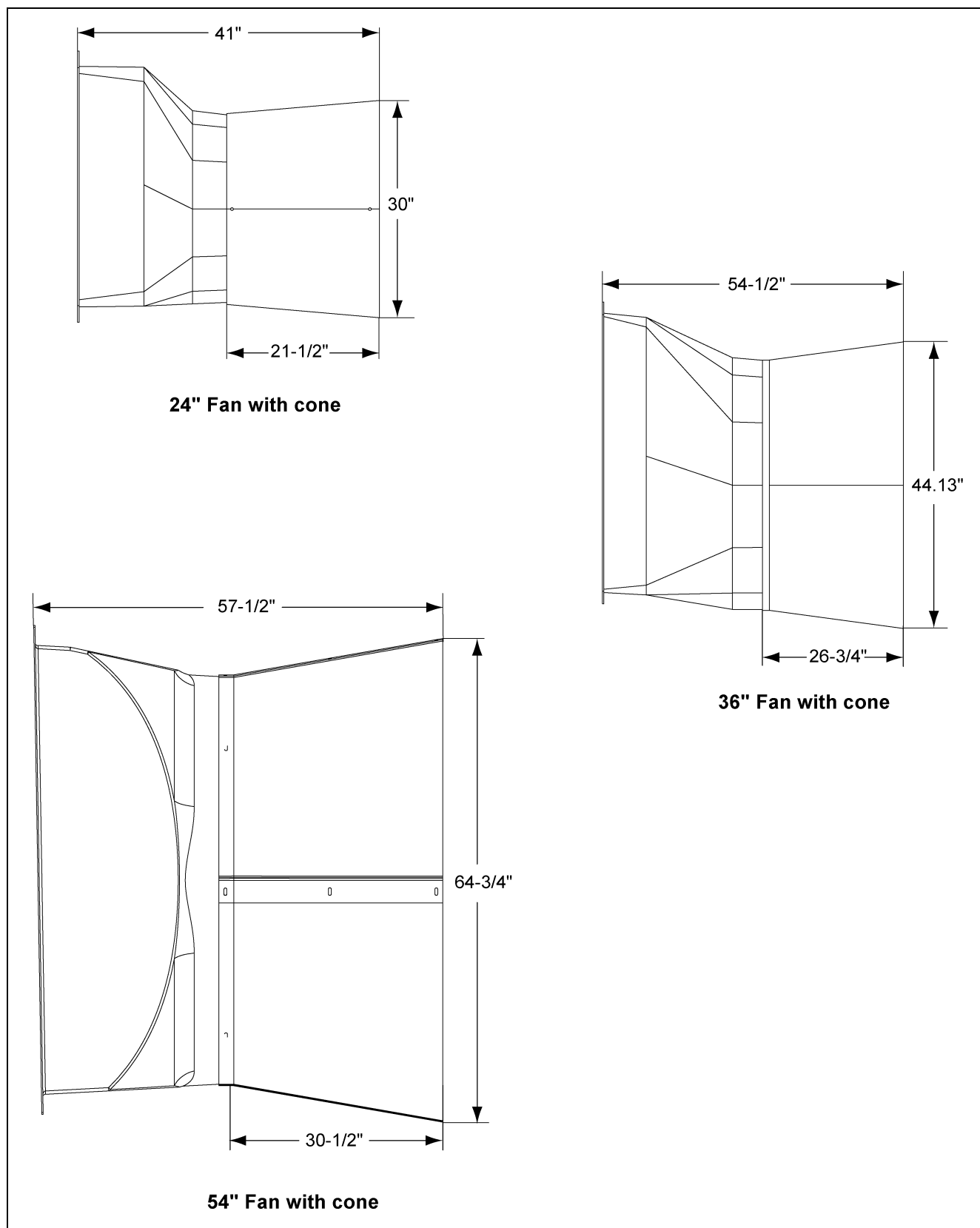


Figure 3B

Cone and Grill Guard Assembly (54" Fan Model)

1. Assemble the four (4) cone panels using the hardware provided (use cone/guard hardware kit). (See [Figure 3C.](#)) Overlap the cone panels and line up the slots on the flanges. Bolt together outside portion of cone using one 5/16" x 1" SS flange bolt, one 5/16" SS flange nut and two (2) 5/16" x 1-1/2" fender washers per hole. Only install hardware in outside two (2) rows of holes. Use washers on both sides to prevent cracking fiberglass panels.
Use washers on both sides to prevent cracking fiberglass panels.
2. When complete, the cone assembly should look like the cone in [Figure 3D.](#) Once assembled, position cone assembly outside the building and lift into position onto the fan housing. Push completely onto orifice and line up the inner holes of the orifice with the holes of the cone.
Bolt the cone to the housing orifice using eight (8) 5/16" SS flange bolts, eight (8) 5/16" flange nuts and sixteen (16) 5/16" x 1-1/2" fender washers. Insert bolts from the inside of orifice through the cone as shown in [Figure 3E](#) below. Tighten all bolts and nuts securely.
3. Insert the grill guard inside of the cone, push back towards the prop until the grill fits snug against the inner portion of the cone. Using the eyelets of the grill guard as the template, mark four (4) locations through the eyelets.
4. Drill through the marks with a 5/16" drill bit. Re-install the grill and bolt securely using four (4) 5/16" x 1" SS flange bolts, four (4) 5/16" SS flange nuts and eight (8) 5/16" x 1-1/4" fender washers.
The fan is now ready to wire up to the power source.

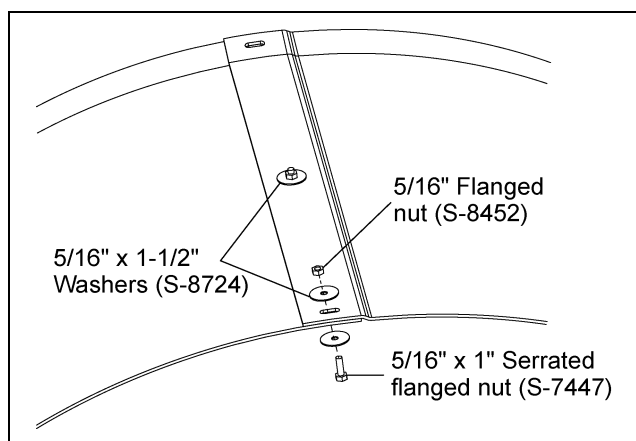


Figure 3C

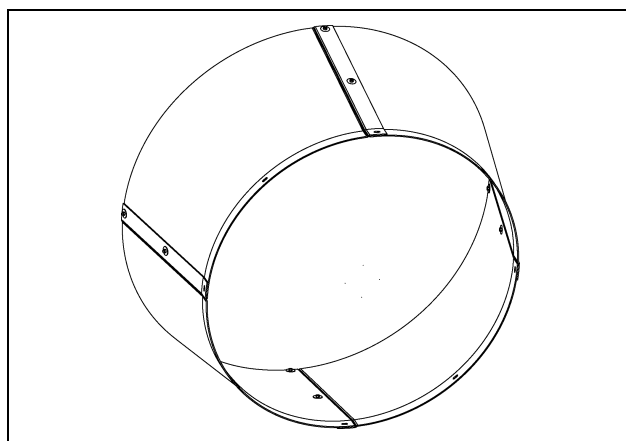


Figure 3D

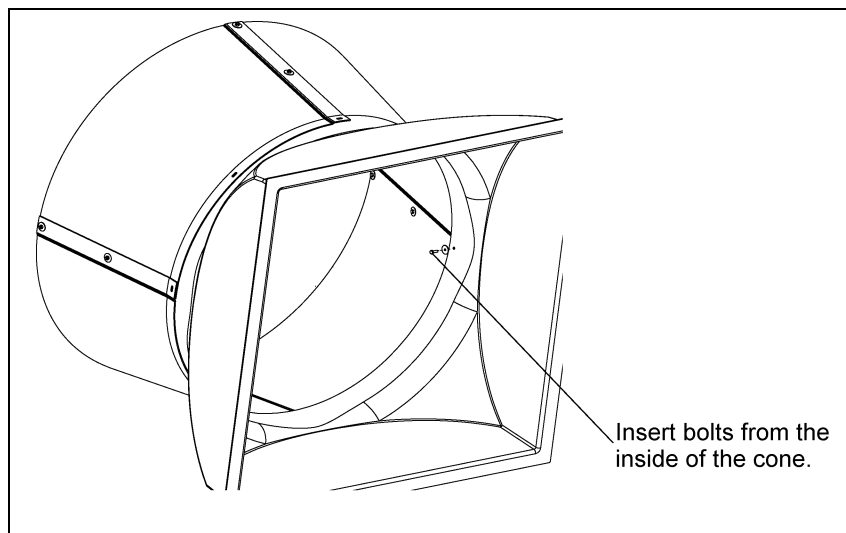


Figure 3E

Electrical Hook-Up



Disconnect and lock out all power sources before servicing equipment.

As previously mentioned, **All** wiring should be installed in accordance with National, State and Local Electrical Codes. A certified electrician should complete this portion of the installation to ensure safety and that the wiring is correct for the application.

1. First, remove the back cover of the motor exposing the wiring block. (See Figure 4A.)

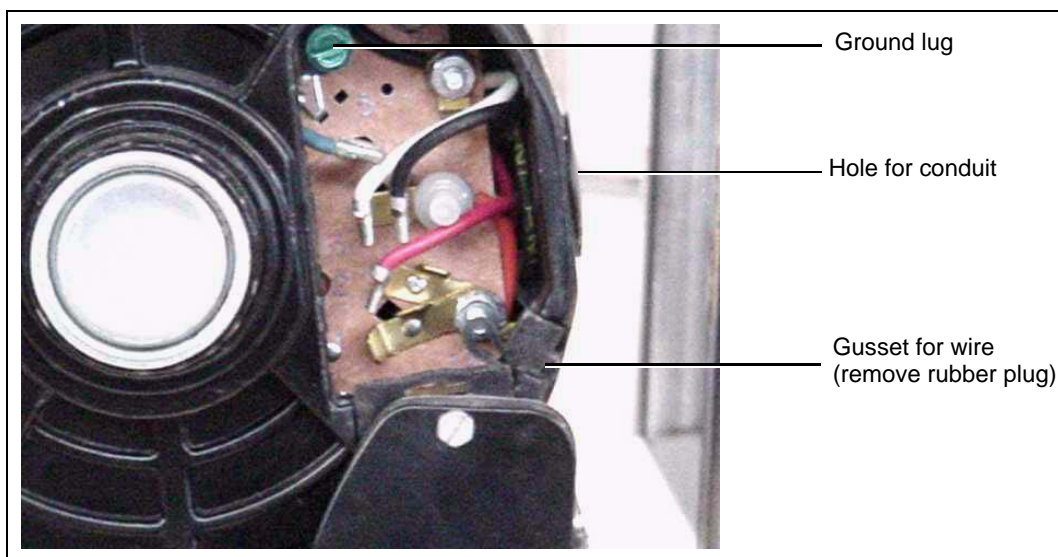


Figure 4A

2. The motor is designed to use either a solid clamping conduit on the side of the motor or the supplied wire with a 3 prong plug attached. In either case, it is important to attach the ground wire to the ground lug as depicted in Figure 4A. For correct motor rotation (CCW), the Red wire should be located on the L2 connection as depicted. If this is not the case, switch the Red and Black wires. Refer to the wiring diagram on the side of the motor for correct wiring for 115V and 230V supply.
3. Fans used to ventilate livestock buildings or other rooms where continuous air movement is essential should be connected to individual electrical circuits with a minimum of two (2) circuits per room. For connection requirements, refer to diagram on the motor nameplate. For 1 phase fans, motor overload protection should be provided for each fan. A safety cut-off switch should be located next to each fan. A circuit breaker switch or slow blow motor type fuses must be used. (See Figure 4B.) 3 Phase fans require three (3) pole contactors with overload protection.

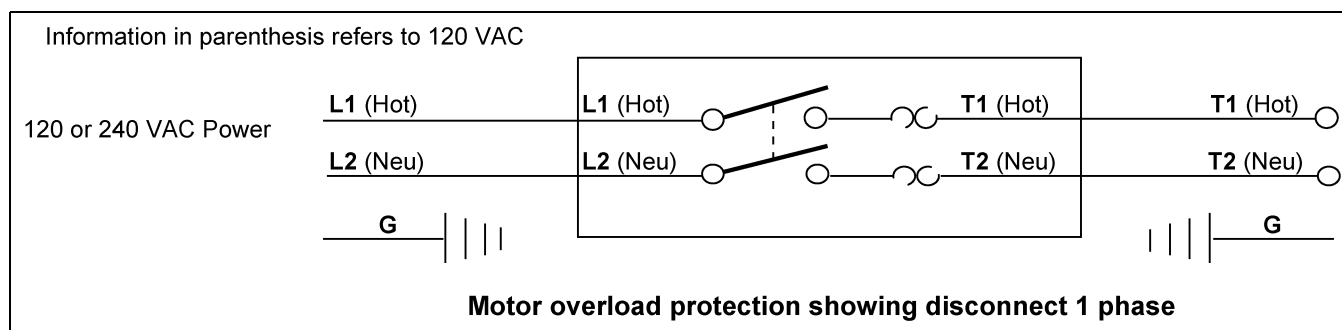


Figure 4B

54" 3 Phase 50 Hz CE Electrical Hook-Up

CE Fan Electrical Connections (For 54", 3 Phase, 50 Hz Fiberglass CE Fans Only.)

1. 3 Phase supply only.
2. Electrical supply protection fuses (not supplied).
3. Motor contactor (not supplied) with fused control voltage via fan control switch or control system (not supplied).
4. Motor overload breaker (not supplied).
5. Service disconnect (not supplied).

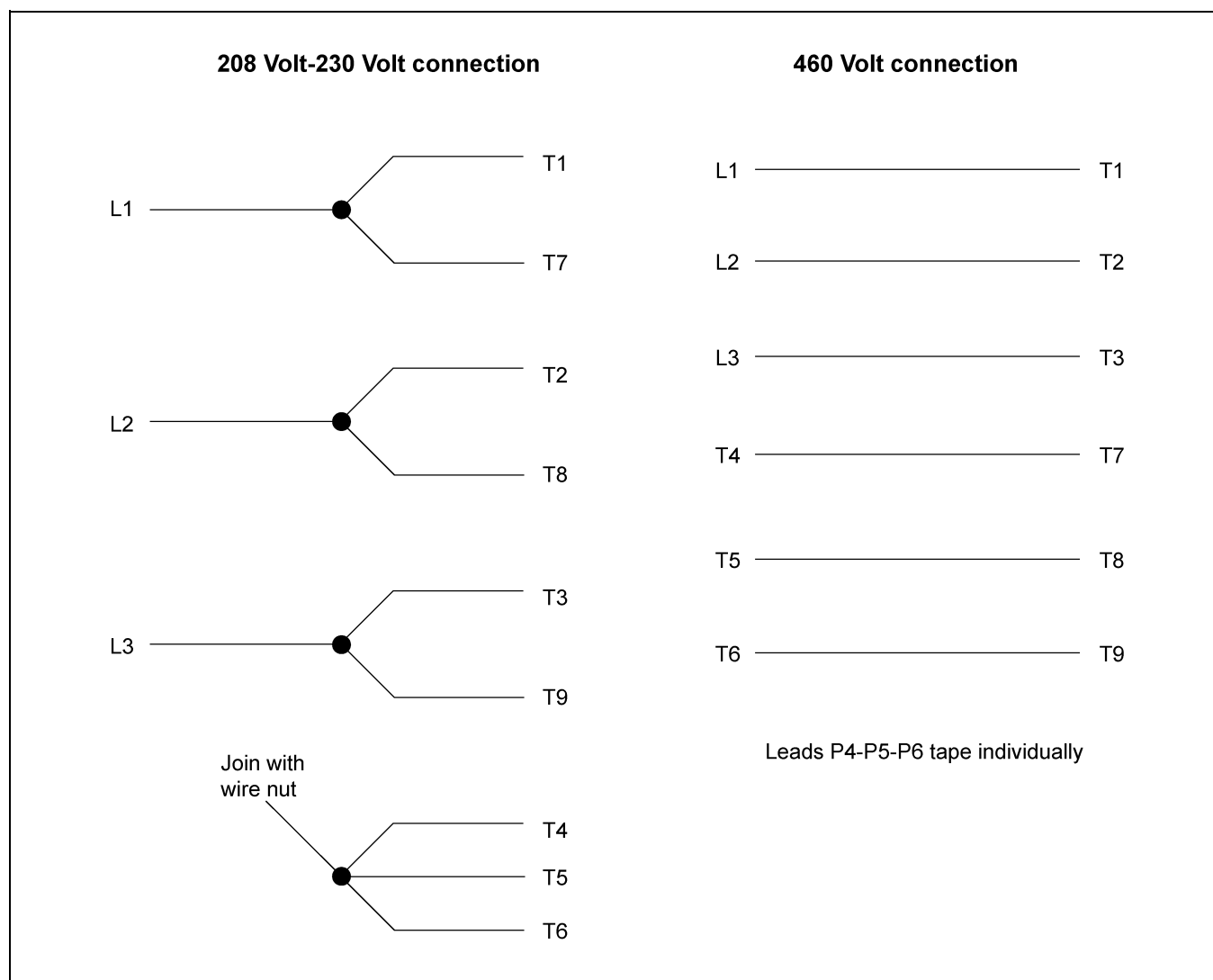


Figure 4C 3 Phase Only

Energize the fan and note the direction of rotation. The prop should turn counterclockwise when viewed from inside the house. If not switch the L1 lead with either the L2 or L3 and rotation will be corrected upon re-energizing fan.

Start-Up and Operation of the Competitor Series Fan



Disconnect and lock out all power sources before servicing equipment.

1. With the fan de-energized, rotate the prop and look for clearance between the prop tip and the housing. Check all fasteners to ensure they are tight. When satisfied, energize the fan and make note of direction of rotation. The prop should turn counterclockwise when viewed from inside the house. If not, refer back to [Figure 4A on Page 15](#) and switch the Black and Red wires as noted after de-energizing the fan. When satisfied the fan is operating properly, turn OFF power and insert the shutters into the housing. Rotate the button retainers to lock down the shutters.
2. Write down the date that the fan went into service and follow the maintenance schedule as listed below:
 - a. For belt driven fans, check the belt, pulleys and the bearings after every two (2) months of service. Take note of the belt position in the pulleys; make sure it is slightly raised or flush with the pulley. If recessed into the grooves, replace the belt.
 - b. The motor and shaft bearings are lubricated at the factory. The motor bearings should never require lubrication over the life of the fan. Pillow block bearings should be re-lubricated every 30 operating days and/or after each wash down cycle with three (3) shots of grease or until fresh grease is seen purging past seal. Lithium or lithium-complex based #2 NLGI grease must be used. Other types of grease are incompatible with the factory lubricant and will damage the bearing.



DO NOT use a pneumatic or powered grease gun.

Incompatible grease or lack of service will void bearing warranty.

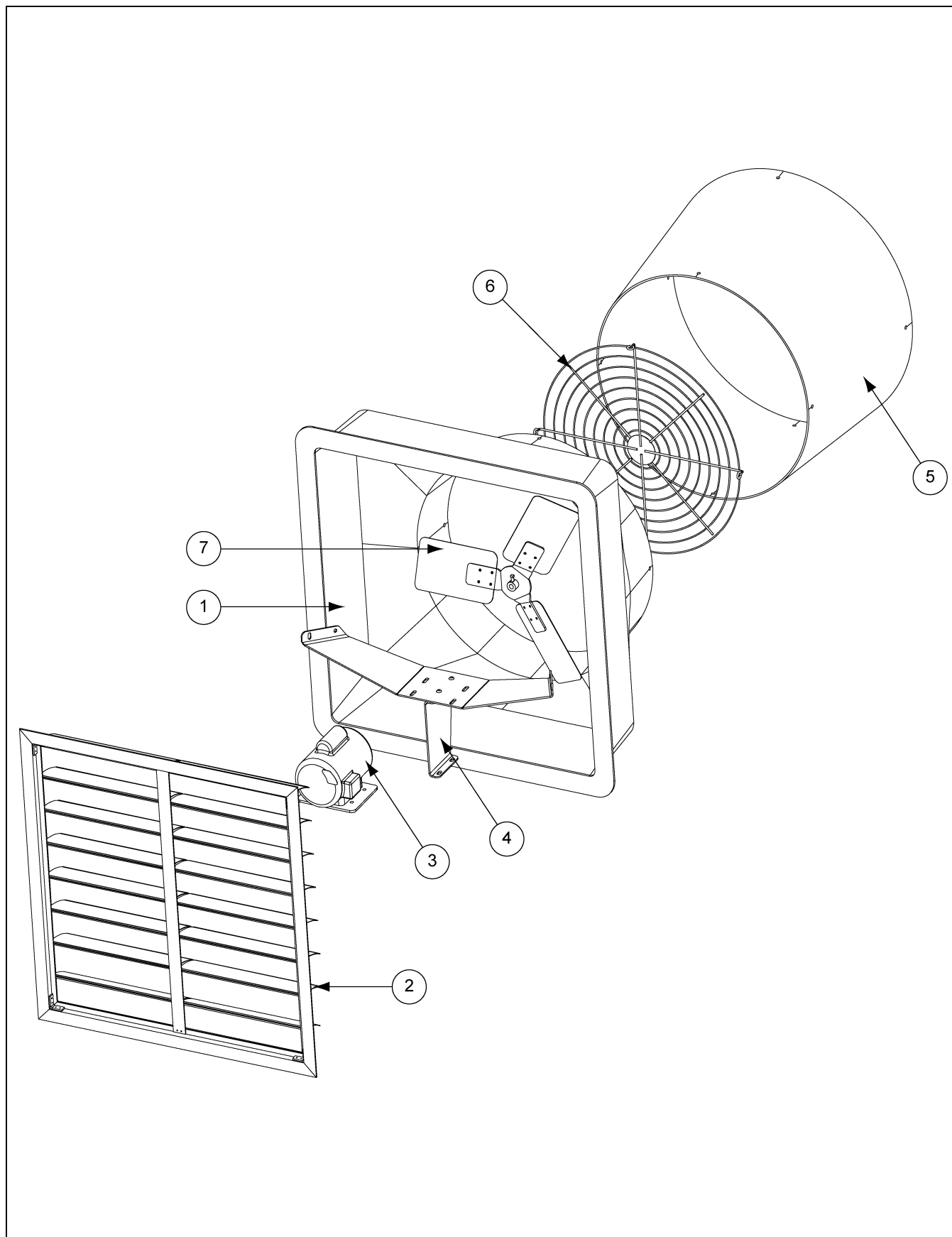
3. When cleaning the fans, **Do Not Spray** bearings, tensioner or motor directly with a pressure washer as this **Will** lead to premature failure of these components. After cleaning the fan, simply wipe these parts with a clean rag to remove dirt and debris. Failure to follow these instructions will void the warranty on these components.
4. While doing fan maintenance, inspect fasteners to ensure they are snug and have not vibrated loose. Tighten as necessary.

6. Troubleshooting Guide

Symptom	Probable Cause(s)	Corrective Action(s)
Excessive noise.	Defective motor bearing. Defective pillow block bearing. Parts are not securely anchored. Damaged fan blade.	Replace. Replace. Check all bolts, screws and fasteners. De-energize fan. Turn prop and check tip clearance. Do they appear to be approximately the same? (NOTE: <i>They can be a little different without any problems.</i>) If they are significantly different, contact your distributor for more information.
Fan inoperative.	Electricity is turned OFF. Belt is broken. Defective motor. Open power supply circuit.	Contact local utility supplier. Replace. Replace. Replace fuse or reset circuit breaker. Check for disconnected, cut or damaged power cord.
Insufficient airflow.	Intake/exhaust shutter is jammed/clogged. Inlet/outlet guards clogged by dirt/debris. Voltage supplied is not correct (must be within $\pm 10\%$ of the nominal voltage).	Repair/replace/clean as necessary. Repair/replace/clean as necessary. Check line voltage at motor, verify wiring. Check with local utility supplier for possible line problems.
Excessive vibration.	Fan blade has excessive dirt build-up. Motor/drive shaft is bent. Fan blade is bent or otherwise damaged.	Clean unit. Replace. Replace blade. Recoat shaft with anti-seize lubricant.
Motor overheats and nuisance trips.	Intake/exhaust shutter is jammed/clogged Inlet/outlet guards clogged by dirt/debris. Motor has excessive dirt build-up. Fan blade has excessive dirt build-up. Building operating static pressure too high. Power supply voltage is too low.	Repair/replace/clean as necessary. Repair/replace/clean as necessary. Clean unit. Clean unit. Adjust air inlets to lower static pressure. Check line voltage at motor; verify wiring is of sufficient gauge for load and length of conductor. Check with local utility supplier for possible line problems.

1. 24" Competitor Series Fiberglass Fan (CS24C1) and (CS24C1-BLK) *(See Pages 20 and 21.)*
2. 36" Competitor Series Fiberglass Fan (CS36C1) *(See Pages 22 and 23.)*
3. 54" Competitor Series Fiberglass Fan (CS54C1-P) and (CS54C1-P-BLK) *(See Pages 24 and 25.)*
4. 54" Competitor Series Fiberglass Fan (CS5435-E-NC-CE) *(See Pages 26 and 27.)*
5. 54" Competitor Series Fiberglass Fan (CS5435-P-NC-CE) *(See Pages 28 and 29.)*
6. 54" Competitor Series Fiberglass Fan (CS54C35-E-CE) *(See Pages 30 and 31.)*
7. 54" Competitor Series Fiberglass Fan (CS54C35-P-CE) *(See Pages 32 and 33.)*
8. 54" Competitor Series Fiberglass Fan (CS54C1-E) *(See Pages 34 and 35.)*

24" Competitor Series Fiberglass Fan (CS24C1) and (CS24C1-BLK)

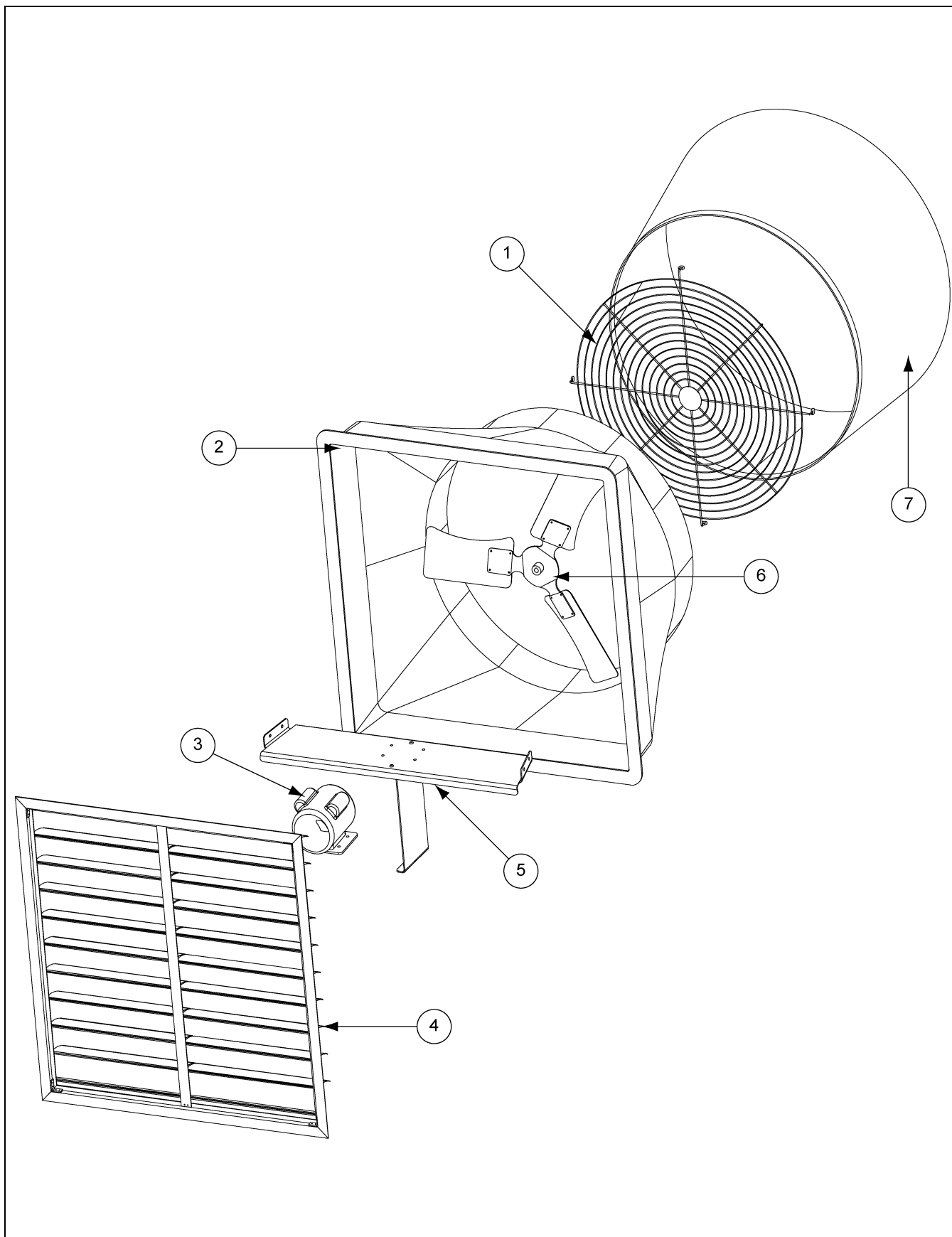


24" Competitor Series Fiberglass Fan (CS24C1) and (CS24C1-BLK) Parts List

Ref #	Part #	Description	Qty
1	12-0083F*	Housing, APP-24" Fiberglass	1
2	PS-32C*	Shutter, PVC APP-24"	1
3	15-0083	Motor, 1/3 HP, 1100 RPM, 1 PH, 115V/230V	1
4	11-0181	APP-24" Motor Mount	1
4	11-0218	24" APP Fan, Motor Mount Left Half	1
4	11-0219	24" APP Fan, Motor Mount Right Half	1
4	S-7176	Huck Bolt 1/4" x 2" Magnagrip	2
4	S-7177	Collar Huck 1/4" Magnagrip	2
5	12-0080F*	Cone, APP-24 Fiberglass Discharge	1
6	11-0202-WH*	Guard, Grill for APP-24" Fan PTD White	1
7	13-0147	Propeller, 5 Blade - Torque Decal Attached	1
7	10-0097	Shutter Mount Hardware	1
7	91-0042	Button, Turn Plastic Large Tongue	8
7	FH-1309	Lock Nut 1/2" with Pipe Threads	1
7	FH-1310	Cord Connector, Heyco #3231	1
7	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	8
7	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	8
7	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
7	DC-1540	Decal, Danger/Warning	2
7	S-7005	Flat Washer 5/16" SS	8
7	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
7	S-8168	Flange Bolt 5/16"-18 x 1-1/2" SS	4
7	S-8452	Flange Nut 5/16"-18 SS Waxed	14
7	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
7	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

* For black fans add - BLK suffix to part numbers.

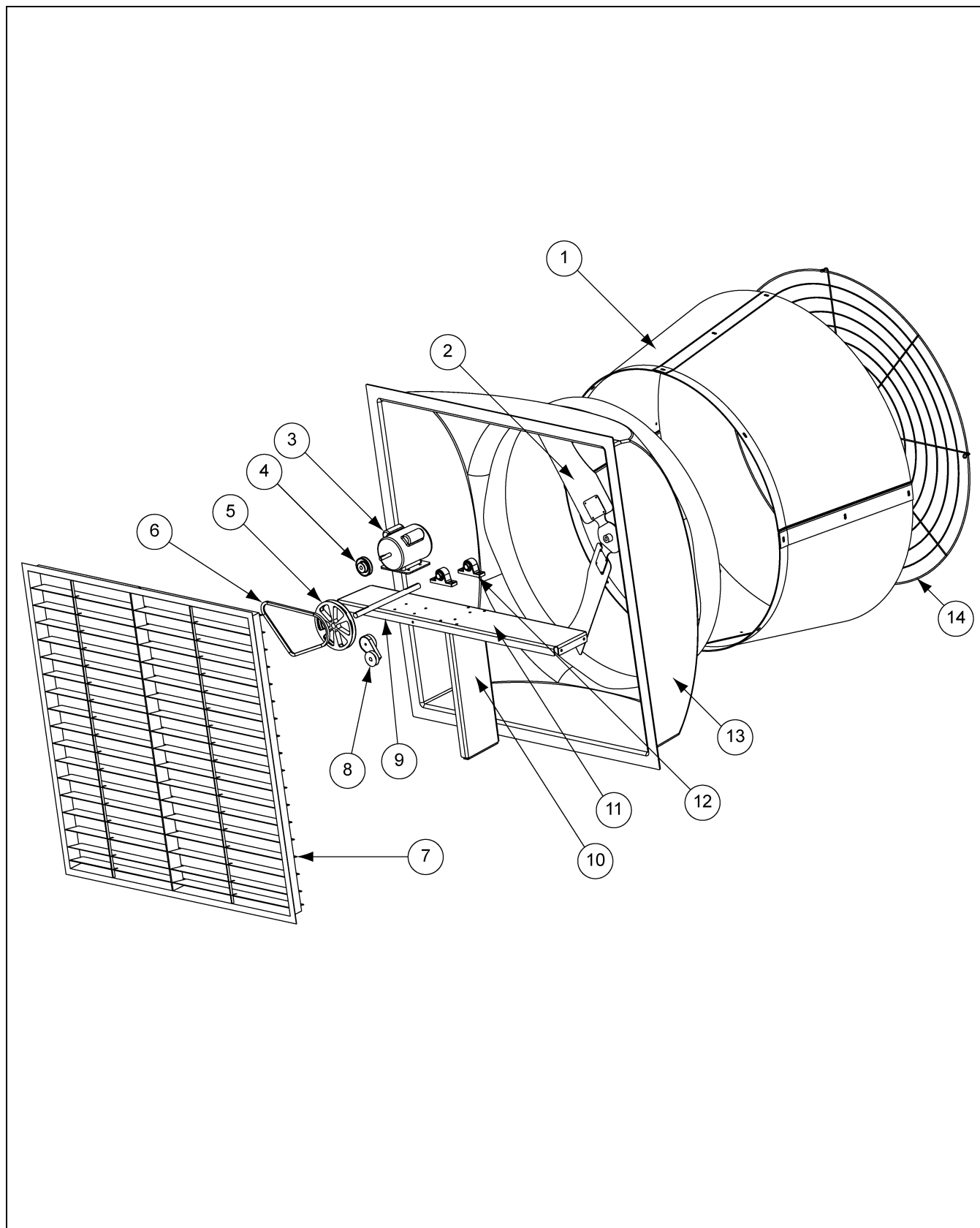
36" Competitor Series Fiberglass Fan (CS36C1)



36" Competitor Series Fiberglass Fan (CS36C1) Parts List

Ref #	Part #	Description	Qty
1	11-0203-WH	Guard Grill for APP-36" Fan PTD White	1
2	12-0091	Housing, APP-36 Fiberglass	1
3	15-0136	Motor for 36" Direct Drive Competitor	1
4	PS-42C	Shutter, PVC 42"	1
5	11-0370	Competitor Series 36" Fiberglass Fan AL Motor Mount Assembly	1
5	11-0364	Bracket - AL 36" Fiberglass Fan Motor Mount	1
5	11-0368	Bracket - AL 36" Fiberglass Fan Vertical Strut	1
5	S-7176	Huck Bolt 1/4" x 2" Magnagrip	2
5	S-7177	Collar Huck 1/4" Magnagrip	2
6	13-0148	Propeller, X Blade (X Diameter) Competitor Series 36"	1
7	12-0093	Cone, APP-36 Fiberglass Discharge	1
7	10-0105	Fiberglass Fan Shutter Mount Hardware	10
7	91-0042	Turn Button Plastic Large Tongue	12
7	FH-1309	Lock Nut 1/2" with Pipe Threads	1
7	FH-1310	Cord Connector, Heyco #3231	1
7	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
7	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
7	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
7	DC-1540	Decal, Danger/Warning	2
7	S-7005	Flat Washer 5/16" SS	8
7	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
7	S-8168	Flange Bolt 5/16"-18 x 1-1/2" SS	4
7	S-8452	Flange Nut 5/16"-18 SS Waxed	14
7	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
7	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

54" Competitor Series Fiberglass Fan (CS54C1-P) and (CS54C1-P-BLK)

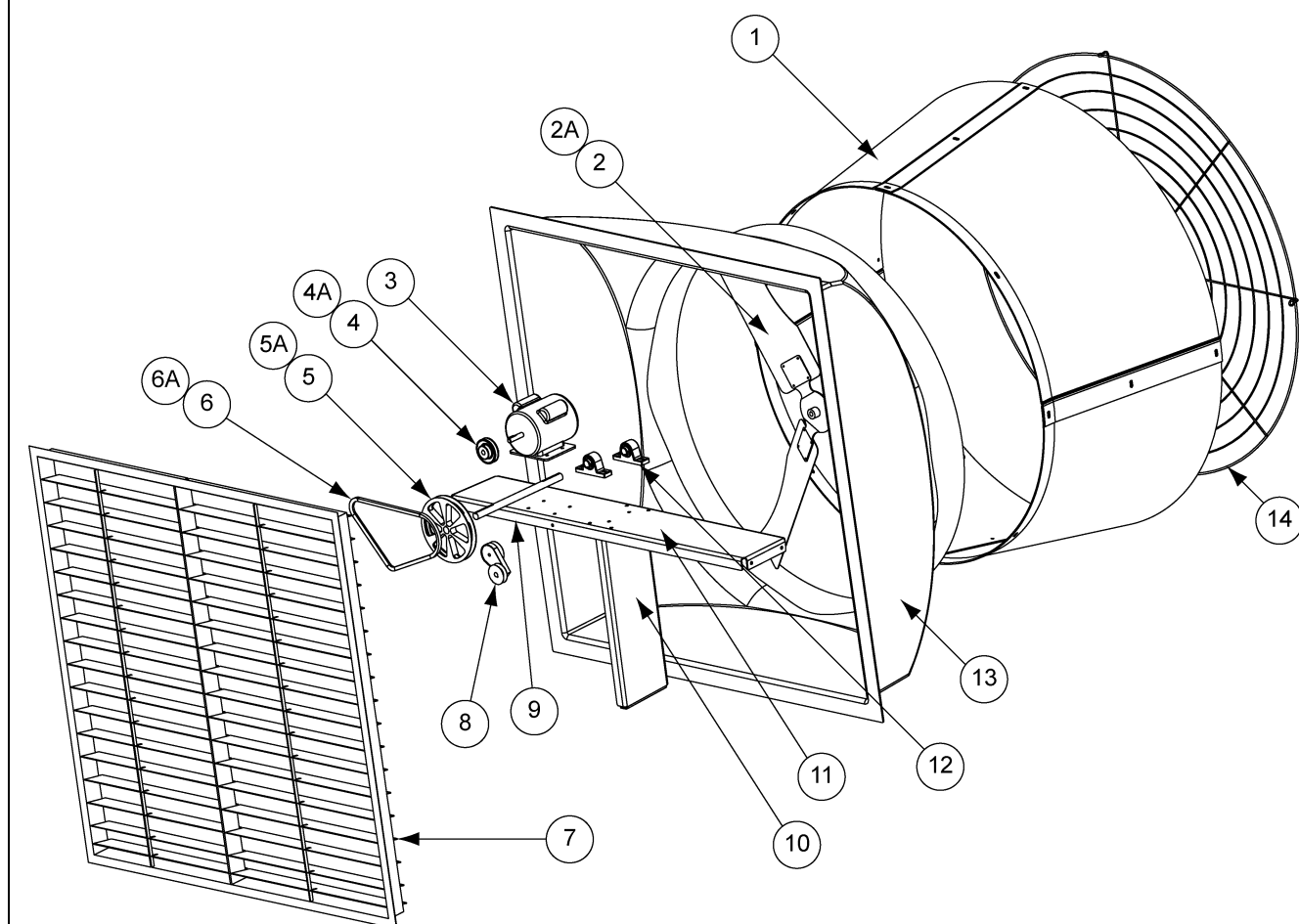


54" Competitor Series Fiberglass Fan (CS54C1-P) and (CS54C1-P-BLK) Parts List

Ref #	Part #	Description	Qty
1	12-0259*	Cone, 54" Fiberglass Panel	4
2	13-0144RS	Propeller, 54" SST (Solid Rivets)	1
3	15-0131	Motor, 1-1/2 HP, 1 PH, 60 Hz, 1.5 SF	1
4	16-0016	Sheave, AK34 x 5/8" Groove	1
5	16-0099	Pulley, Fenner Nylon 104 x 1"	1
6	16-0088	Belt, AX 46 Cogged V-Belt, 48" Nominal Length	1
7	PS-59C*	Shutter PVC 59-1/4" Tall x 56-3/4" Wide	1
8	91-0057	Tensioner, Rotary Assembly with Splash Guards	1
9	16-0005	Drive Shaft, 1" Ground and Polished	1
10	11-0359	Vertical Strut - 54" Fiberglass Boss Fan	1
11	11-0358	Bearing Plate - 54" Fiberglass Boss Fan	1
12	1016-0100	1" Pillow Block Bearing	2
13	12-0258*	Housing, 54" Fiberglass	1
14	11-0255WH*	54" Fiberglass Fan Grill Guard 61" White	1
14	10-0100	54" Fiberglass Cone/Guard Hardware Kit	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	20
14	S-8452	Flange Nut 5/16"-18 SS Waxed	20
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	40
14	DC-1540	Decal, Danger/Warning	2
14	DC-1571	Decal, Grease Instructions All BD Fans	1
14	DC-995	Decal, Warning Shear Point	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
14	S-8032	Flange Nut 3/8"-16 SS	6
14	S-8140	Flange Bolt 3/8"-16 x 1-1/2" SS	4
14	S-8452	Flange Nut 5/16"-18 SS Waxed	10
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
14	S-9168	Square Key 1/4" x 1"	2
14	10-0105	Fiberglass Fan Shutter Mount Hardware	1
14	91-0042	Turn Button Plastic Large Tongue	12
14	FH-1309	Lock Nut 1/2" with Pipe Threads	1
14	FH-1310	Cord Connector, Heyco #3231	1
14	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
14	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
14	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
14	1EL2046	Rubber Grommet	1
14	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

* For black fans add - BLK suffix to part numbers.

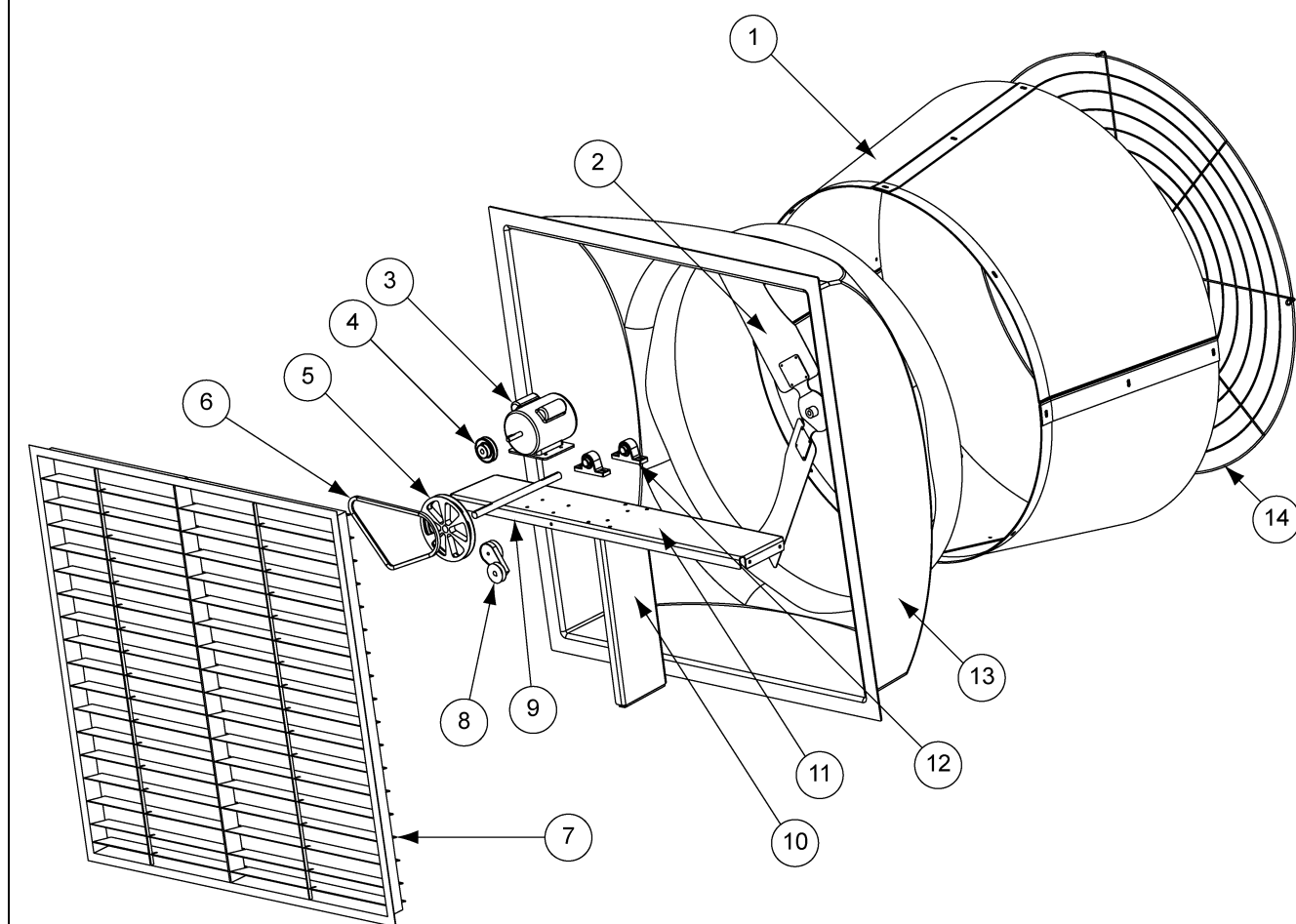
54" Competitor Series Fiberglass Fan (CS5435-E-NC-CE)



54" Competitor Series Fiberglass Fan (CS5435-E-NC-CE) Parts List

Ref #	Part #	Description	Qty
1	12-0259	Cone, 54" Fiberglass Panel	4
2	13-0144RS	Propeller, 54" SST (Solid Rivets)	1
2A	13-0202	Propeller, 54" SST (For Six (6) Blade Propeller Only)	1
3	15-0200	Motor, 1-3/4 HP, 3 PH 208-230/460V, 50/60 Hz	1
4	16-0016	Sheave, AK34 x 5/8" Groove	1
4A	017-1422-9	Sheave, AK30 x 5/8" (For Six (6) Blade Propeller Only)	1
5	16-0015	Sheave, 1 Grade, A8.78" - 1", 8.93" O.D.	1
5A	13-0203	Sheave, A1124 1.00" Bore x 1/4" Keyway (For Six (6) Blade Propeller Only)	1
6	16-0088	Belt, AX 46 Cogged V-Belt, 48" Nominal Length	1
6A	16-0110	Belt, AX 54, Cogged V Belt, 56" Nominal Length (For Six (6) Blade Propeller Only)	1
7	PS-59C	Shutter PVC 59-1/4" Tall x 56-3/4" Wide	1
8	91-0057	Tensioner, Rotary Assembly with Splash Guards	1
9	16-0005	Drive Shaft, 1" Ground and Polished	1
10	11-0359	Vertical Strut - 54" Fiberglass Boss Fan	1
11	11-0358	Bearing Plate - 54" Fiberglass Boss Fan	1
12	1016-0100	1" Pillow Block Bearing	2
13	12-0258	Housing, 54" Fiberglass	1
14	11-0255WH	54" Fiberglass Fan Grill Guard 61" White	1
14	10-0100	54" Fiberglass Cone/Guard Hardware Kit	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	20
14	S-8452	Flange Nut 5/16"-18 SS Waxed	20
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	40
14	DC-1540	Decal, Danger/Warning	2
14	DC-1571	Decal, Grease Instructions All BD Fans	1
14	DC-995	Decal, Warning Shear Point	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
14	S-8032	Flange Nut 3/8"-16 SS	6
14	S-8140	Flange Bolt 3/8"-16 x 1-1/2" SS	4
14	S-8452	Flange Nut 5/16"-18 SS Waxed	10
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
14	S-9168	Square Key 1/4" x 1"	2
14	10-0105	Fiberglass Fan Shutter Mount Hardware	1
14	91-0042	Turn Button Plastic Large Tongue	12
14	FH-1309	Lock Nut 1/2" with Pipe Threads	1
14	FH-1310	Cord Connector, Heyco #3231	1
14	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
14	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
14	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
14	1EL2046	Rubber Grommet	1
14	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

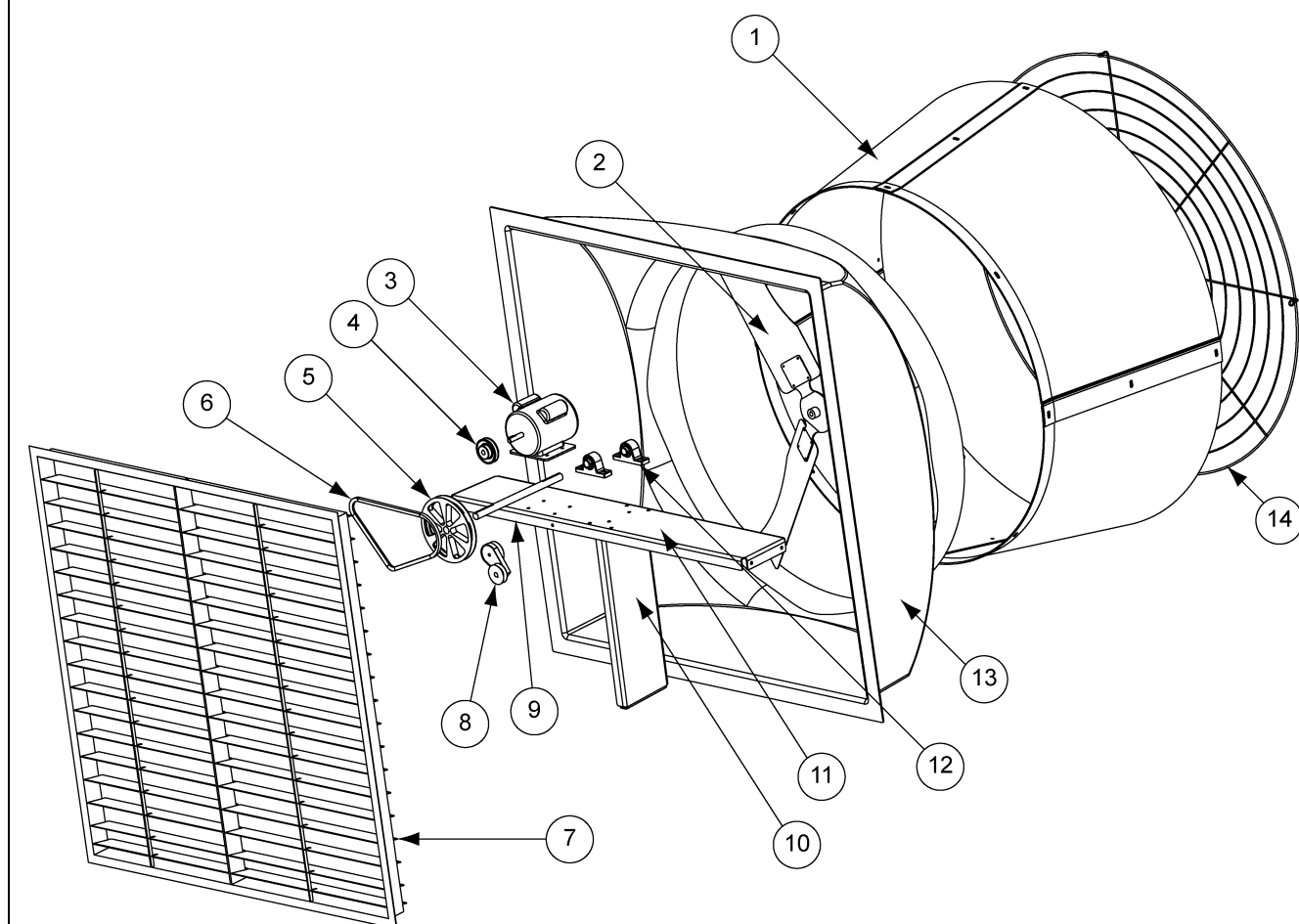
54" Competitor Series Fiberglass Fan (CS5435-P-NC-CE)



54" Competitor Series Fiberglass Fan (CS5435-P-NC-CE) Parts List

Ref #	Part #	Description	Qty
1	12-0259	Cone, 54" Fiberglass Panel	4
2	13-0144RS	Propeller, 54" SST (Solid Rivets)	1
3	15-0200	Motor, 1-3/4 HP, 3 PH 208-230/460V, 50/60 Hz	1
4	16-0027	Sheave, 1 Grade, A3-1/2" - 5/8", 3-3/4" O.D.	1
5	16-0015	Sheave, 1 Grade, A8.78" - 1", 8.93" O.D.	1
6	16-0088	Belt, AX 46 Cogged V-Belt, 48" Nominal Length	1
7	PS-59C	Shutter PVC 59-1/4" Tall x 56-3/4" Wide	1
8	91-0057	Tensioner, Rotary Assembly with Splash Guards	1
9	16-0005	Drive Shaft, 1" Ground and Polished	1
10	11-0359	Vertical Strut - 54" Fiberglass Boss Fan	1
11	11-0358	Bearing Plate - 54" Fiberglass Boss Fan	1
12	1016-0100	1" Pillow Block Bearing	2
13	12-0258	Housing, 54" Fiberglass	1
14	11-0255WH	54" Fiberglass Fan Grill Guard 61" White	1
14	10-0100	54" Fiberglass Cone/Guard Hardware Kit	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	20
14	S-8452	Flange Nut 5/16"-18 SS Waxed	20
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	40
14	DC-1540	Decal, Danger/Warning	2
14	DC-1571	Decal, Grease Instructions All BD Fans	1
14	DC-995	Decal, Warning Shear Point	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
14	S-8032	Flange Nut 3/8"-16 SS	6
14	S-8140	Flange Bolt 3/8"-16 x 1-1/2" SS	4
14	S-8452	Flange Nut 5/16"-18 SS Waxed	10
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
14	S-9168	Square Key 1/4" x 1"	2
14	10-0105	Fiberglass Fan Shutter Mount Hardware	1
14	91-0042	Turn Button Plastic Large Tongue	12
14	FH-1309	Lock Nut 1/2" with Pipe Threads	1
14	FH-1310	Cord Connector, Heyco #3231	1
14	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
14	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
14	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
14	1EL2046	Rubber Grommet	1
14	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

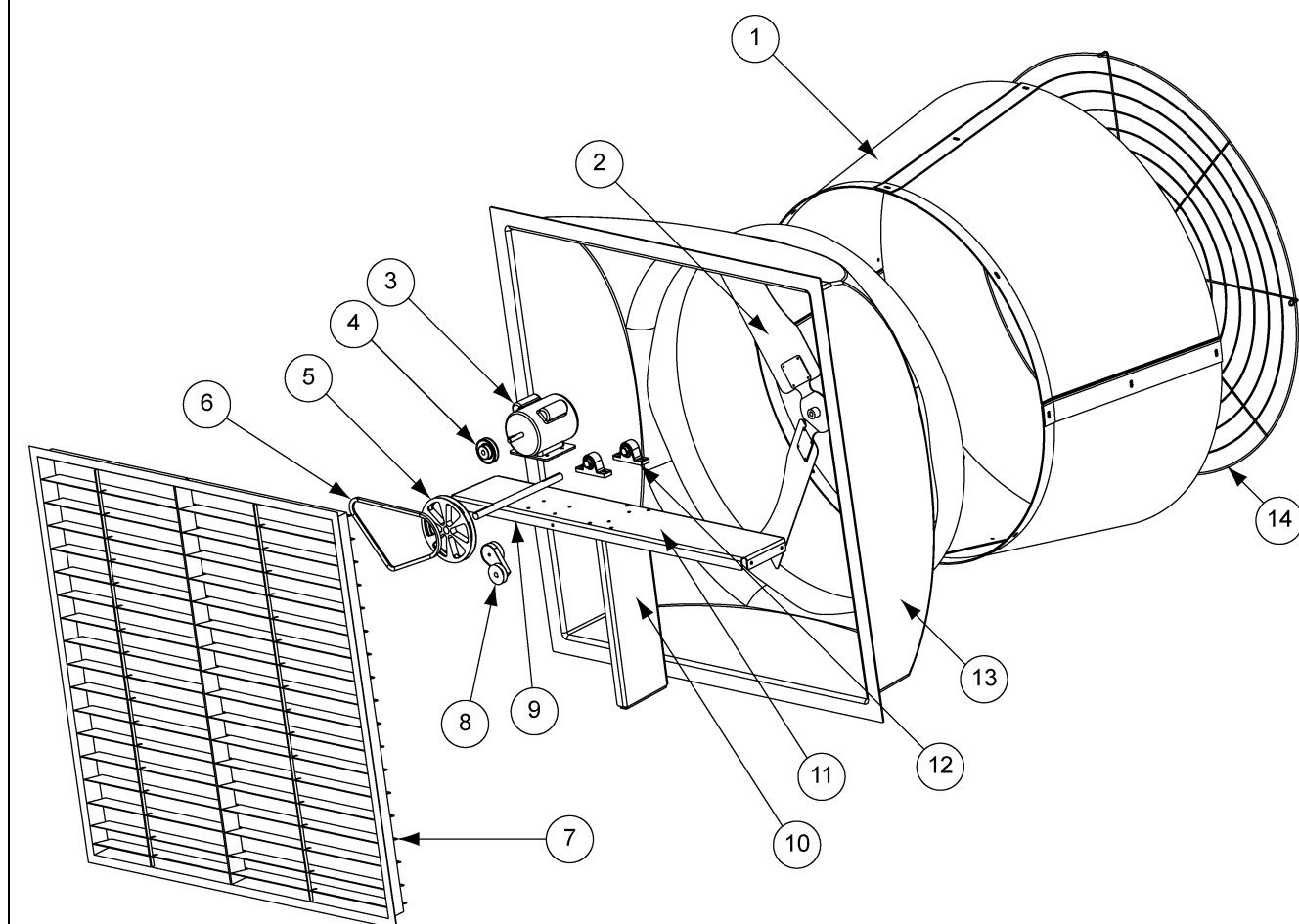
54" Competitor Series Fiberglass Fan (CS54C35-E-CE)



54" Competitor Series Fiberglass Fan (CS54C35-E-CE) Parts List

Ref #	Part #	Description	Qty
1	12-0259	54" Fiberglass Cone Panel	4
2	13-0144RS	Propeller, 54" SST (Solid Rivets)	1
3	15-0200	Motor, 1-3/4 HP, 3 PH 208-230/460V, 50/60 Hz	1
4	16-0016	Sheave, AK34 x 5/8" Groove	1
5	16-0015	Sheave, 1 Grade, A8.78" - 1", 8.93" O.D.	1
6	16-0088	Belt, AX 46 Cogged V-Belt, 48" Nominal Length	1
7	PS-59C	Shutter PVC 59-1/4" Tall x 56-3/4" Wide	1
8	91-0057	Tensioner, Rotary Assembly with Splash Guards	1
9	16-0005	Drive Shaft, 1" Ground and Polished	1
10	11-0359	Vertical Strut - 54" Fiberglass Boss Fan	1
11	11-0358	Bearing Plate - 54" Fiberglass Boss Fan	1
12	1016-0100	1" Pillow Block Bearing	2
13	12-0258	Housing, 54" Fiberglass	1
14	11-0255WH	54" Fiberglass Fan Grill Guard 61" White	1
14	10-0100	54" Fiberglass Cone/Guard Hardware Kit	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	20
14	S-8452	Flange Nut 5/16"-18 SS Waxed	20
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	40
14	DC-1540	Decal, Danger/Warning	2
14	DC-1571	Decal, Grease Instructions All BD Fans	1
14	DC-995	Decal, Warning Shear Point	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
14	S-8032	Flange Nut 3/8"-16 SS	6
14	S-8140	Flange Bolt 3/8"-16 x 1-1/2" SS	4
14	S-8452	Flange Nut 5/16"-18 SS Waxed	10
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
14	S-9168	Square Key 1/4" x 1"	2
14	10-0105	Fiberglass Fan Shutter Mount Hardware	1
14	91-0042	Turn Button Plastic Large Tongue	12
14	FH-1309	Lock Nut 1/2" with Pipe Threads	1
14	FH-1310	Cord Connector, Heyco #3231	1
14	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
14	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
14	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
14	1EL2046	Rubber Grommet	1
14	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

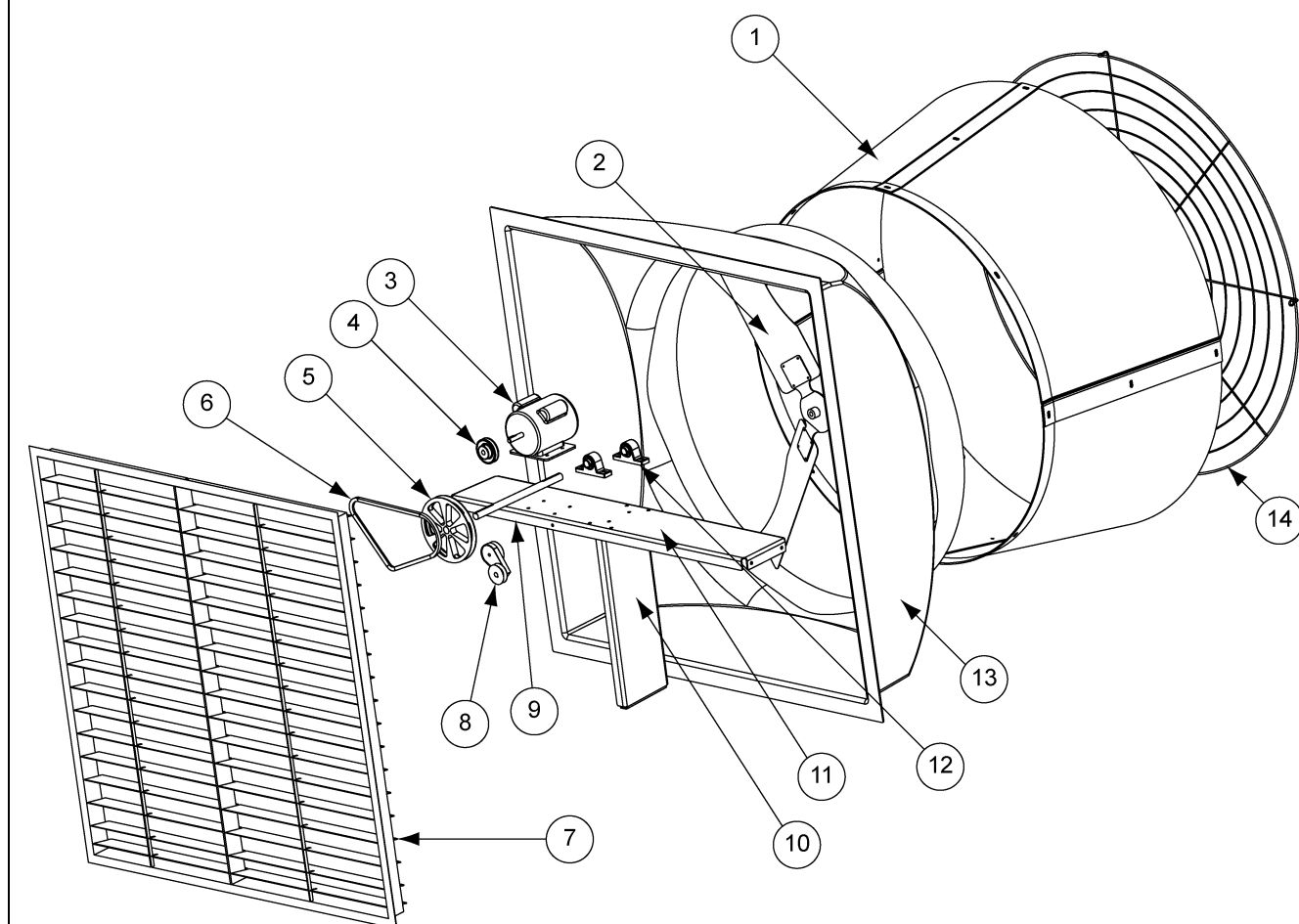
54" Competitor Series Fiberglass Fan (CS54C35-P-CE)



54" Competitor Series Fiberglass Fan (CS54C35-P-CE) Parts List

Ref #	Part #	Description	Qty
1	12-0259	54" Fiberglass Cone Panel	4
2	13-0144RS	Propeller, 54" SST (Solid Rivets)	1
3	15-0200	Motor, 1-3/4 HP, 3 PH 208-230/460V, 50/60 Hz	1
4	16-0027	Sheave, 1 Grade, A3-1/2" - 5/8", 3-3/4" O.D.	1
5	16-0015	Sheave, 1 Grade, A8.78" - 1", 8.93" O.D.	1
6	16-0088	Belt, AX 46 Cogged V-Belt, 48" Nominal Length	1
7	PS-59C	Shutter PVC 59-1/4" Tall x 56-3/4" Wide	1
8	91-0057	Tensioner, Rotary Assembly with Splash Guards	1
9	16-0005	Drive Shaft, 1" Ground and Polished	1
10	11-0359	Vertical Strut - 54" Fiberglass Boss Fan	1
11	11-0358	Bearing Plate - 54" Fiberglass Boss Fan	1
12	1016-0100	1" Pillow Block Bearing	2
13	12-0258	Housing, 54" Fiberglass	1
14	11-0255WH	54" Fiberglass Fan Grill Guard 61" White	1
14	10-0100	54" Fiberglass Cone/Guard Hardware Kit	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	20
14	S-8452	Flange Nut 5/16"-18 SS Waxed	20
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	40
14	DC-1540	Decal, Danger/Warning	2
14	DC-1571	Decal, Grease Instructions All BD Fans	1
14	DC-995	Decal, Warning Shear Point	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
14	S-8032	Flange Nut 3/8"-16 SS	6
14	S-8140	Flange Bolt 3/8"-16 x 1-1/2" SS	4
14	S-8452	Flange Nut 5/16"-18 SS Waxed	10
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
14	S-9168	Square Key 1/4" x 1"	2
14	10-0105	Fiberglass Fan Shutter Mount Hardware	1
14	91-0042	Turn Button Plastic Large Tongue	12
14	FH-1309	Lock Nut 1/2" with Pipe Threads	1
14	FH-1310	Cord Connector, Heyco #3231	1
14	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
14	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
14	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
14	1EL2046	Rubber Grommet	1
14	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

54" Competitor Series Fiberglass Fan (CS54C1-E)



54" Competitor Series Fiberglass Fan (CS54C1-E) Parts List

Ref #	Part #	Description	Qty
1	12-0259	54" Fiberglass Cone Panel	4
2	13-0144RS	Propeller, 54" SST (Solid Rivets)	1
3	15-0131	Motor, 1-1/2 HP, 1 PH, 60 Hz, 1.5 SF	1
4	017-1391-6	Sheave, 2.8" O.D. x 5/8" I.D.	1
5	16-0099	Pulley, Fenner Nylon 104 x 1"	1
6	16-0088	Belt, AX 46 Cogged V-Belt, 48" Nominal Length	1
7	PS-59C	Shutter PVC 59-1/4" Tall x 56-3/4" Wide	1
8	91-0057	Tensioner, Rotary Assembly with Splash Guards	1
9	16-0005	Drive Shaft, 1" Ground and Polished	1
10	11-0359	Vertical Strut - 54" Fiberglass Boss Fan	1
11	11-0358	Bearing Plate - 54" Fiberglass Boss Fan	1
12	1016-0100	1" Pillow Block Bearing	2
13	12-0258	Housing, 54" Fiberglass	1
14	11-0255WH	54" Fiberglass Fan Grill Guard 61" White	1
14	10-0100	54" Fiberglass Cone/Guard Hardware Kit	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	20
14	S-8452	Flange Nut 5/16"-18 SS Waxed	20
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	40
14	DC-1540	Decal, Danger/Warning	2
14	DC-1571	Decal, Grease Instructions All BD Fans	1
14	DC-995	Decal, Warning Shear Point	1
14	S-7447	Flange Bolt 5/16"-18 x 1" SS (Full Thread)	10
14	S-8032	Flange Nut 3/8"-16 SS	6
14	S-8140	Flange Bolt 3/8"-16 x 1-1/2" SS	4
14	S-8452	Flange Nut 5/16"-18 SS Waxed	10
14	S-8724	Fender Washer 5/16" x 1-1/2" x 1/16" SS	6
14	S-9168	Square Key 1/4" x 1"	2
14	10-0105	Fiberglass Fan Shutter Mount Hardware	1
14	91-0042	Turn Button Plastic Large Tongue	12
14	FH-1309	Lock Nut 1/2" with Pipe Threads	1
14	FH-1310	Cord Connector, Heyco #3231	1
14	S-7279	Flat Washer 3/16" I.D. (Backup Washer for 3/16" Rivets)	12
14	S-7419	Screw, SDS #10-16 x 1-1/4" HWH SS410	12
14	S-7502	Screw, SMSA 1/4"-14 x 1-1/2" HWHS SS	8
14	1EL2046	Rubber Grommet	1
14	PNEG-1559	Competitor Series Fan Operation/Instruction Manual	1

NOTES

GSI Group, LLC Limited Warranty

The GSI Group, LLC ("GSI") warrants products which it manufactures to be free of defects in materials and workmanship under normal usage and conditions for a period of 12 months after sale to the original end-user or if a foreign sale, 14 months from arrival at port of discharge, whichever is earlier. The end-user's sole remedy (and GSI's only obligation) is to repair or replace, at GSI's option and expense, products that in GSI's judgment, contain a material defect in materials or workmanship. Expenses incurred by or on behalf of the end-user without prior written authorization from the GSI Warranty Group shall be the sole responsibility of the end-user.

Warranty Extensions:

The Limited Warranty period is extended for the following products:

	Product	Warranty Period	
AP Fans and Flooring	Performer Series Direct Drive Fan Motor	3 Years	* Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 25% 5 to 7 years - end-user pays 50% 7 to 10 years - end-user pays 75%
	All Fiberglass Housings	Lifetime	
	All Fiberglass Propellers	Lifetime	
AP and Cumberland	Flex-Flo/Pan Feeding System Motors	2 Years	
Cumberland Feeding/Watering Systems	Feeder System Pan Assemblies	5 Years **	** Warranty prorated from list price: 0 to 3 years - no cost to end-user 3 to 5 years - end-user pays 50%
	Feed Tubes (1-3/4" and 2.00")	10 Years *	
	Centerless Augers	10 Years *	
	Watering Nipples	10 Years *	
Grain Systems	Grain Bin Structural Design	5 Years	
Grain Systems Farm Fans Zimmerman	Portable and Tower Dryers	2 Years	† Motors, burner components and moving parts not included. Portable dryer screens included. Tower dryer screens not included.
	Portable and Tower Dryer Frames and Internal Infrastructure †	5 Years	

GSI further warrants that the portable and tower dryer frame and basket, excluding all auger and auger drive components, shall be free from defects in materials for a period of time beginning on the twelfth (12th) month from the date of purchase and continuing until the sixtieth (60th) month from the date of purchase (extended warranty period). During the extended warranty period, GSI will replace the frame or basket components that prove to be defective under normal conditions of use without charge, excluding the labor, transportation, and/or shipping costs incurred in the performance of this extended warranty.

Conditions and Limitations:

THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE LIMITED WARRANTY DESCRIPTION SET FORTH ABOVE. SPECIFICALLY, GSI MAKES NO FURTHER WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE IN CONNECTION WITH: (I) PRODUCT MANUFACTURED OR SOLD BY GSI OR (II) ANY ADVICE, INSTRUCTION, RECOMMENDATION OR SUGGESTION PROVIDED BY AN AGENT, REPRESENTATIVE OR EMPLOYEE OF GSI REGARDING OR RELATED TO THE CONFIGURATION, INSTALLATION, LAYOUT, SUITABILITY FOR A PARTICULAR PURPOSE, OR DESIGN OF SUCH PRODUCTS.

GSI shall not be liable for any direct, indirect, incidental or consequential damages, including, without limitation, loss of anticipated profits or benefits. The sole and exclusive remedy is set forth in the Limited Warranty, which shall not exceed the amount paid for the product purchased. This warranty is not transferable and applies only to the original end-user. GSI shall have no obligation or responsibility for any representations or warranties made by or on behalf of any dealer, agent or distributor.

GSI assumes no responsibility for claims resulting from construction defects or unauthorized modifications to products which it manufactured. Modifications to products not specifically delineated in the manual accompanying the equipment at initial sale will void the Limited Warranty.

This Limited Warranty shall not extend to products or parts which have been damaged by negligent use, misuse, alteration, accident or which have been improperly/inadequately maintained. This Limited Warranty extends solely to products manufactured by GSI.

Prior to installation, the end-user has the responsibility to comply with federal, state and local codes which apply to the location and installation of products manufactured or sold by GSI.

This equipment shall be installed in accordance with the current installation codes and applicable regulations, which should be carefully followed in all cases. Authorities having jurisdiction should be consulted before installations are made.



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